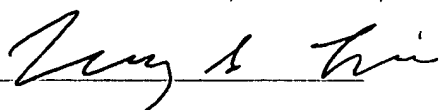




CERTIFICATE OF EXPRESS MAIL	
NUMBER	EV 405193388
DATE OF DEPOSIT	June 10, 2004
I hereby certify that this paper or fee is being deposited with the United States Postal Service "EXPRESS MAIL POST OFFICE TO ADDRESSEE" service under 37 C.F.R. 1.10 on the date indicated above and is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria VA, 22313-1450.	
	
Signature	

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
David Becker et al.

Serial No.: 09/923,058

Filed: 8/6/01

For: METHODS FOR ENHANCING SILICON
DIOXIDE TO SILICON NITRIDE
SELECTIVITY (*as previously amended*)

Group Art Unit: 1763

Examiner: George Goudreau

Examiner phone: 571-272-1434

Atty. Dkt. No.: 102-0072US-4

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria VA, 22313-1450

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement (IDS) be entered and the documents listed on attached Form PTO-1449 be considered by the Examiner and made of record. Copies of the listed documents are attached.

In accordance with 37 C.F.R §§ 1.97(g),(h), this IDS is not to be construed as a representation that a search has been made, and is not to be construed to be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b), or that such information constitutes prior art.

06/15/2004 SSITHIB1 00000083 501922 09923058
01 FC:1806 180.00 DA

This IDS is being filed after a first office action on the merits, but before the close of prosecution. Accordingly, a fee of \$180.00 is believed due. This Office is authorized to deduct this fee, and any other necessary fees, from Deposit Account No. 501922, referencing matter no. 102-0072US-4.

Applicant again respectfully requests that the listed documents be considered and made of record in the present case, and that the Examiner initial the appropriate spaces on the Form 1449 to evidence the same.

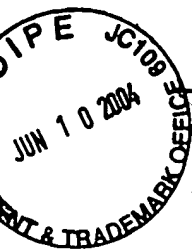
Respectfully submitted,



Terril G. Lewis, Reg. No. 46,065

Wong, Cabello, Lutsch, Rutherford
& Brucculeri, LLP
20333 SH 249
Houston, Texas 77070
(832) 446-2422
Fax: 832 446-2424

6/10/04



Form PTO-1449 (modified)

Atty. Docket No.
102-0072US-4Serial No.
09/923,058

List of Patents and Publications for Applicant's

Inventor/Applicant:
Becker, et al. / Micron Technology, Inc.

INFORMATION DISCLOSURE STATEMENT

Title: METHODS FOR ENHANCING SILICON
DIOXIDE TO SILICON NITRIDE
SELECTIVITY (*as previously amended*)

(Use several sheets if necessary)

Filing Date:
08/06/01Group:
1763

U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A1	3,479,237	11/18/1969	Bergh, et al.	156	11	04/08/66
	A2	4,180,432	12/25/1979	Clark	156	643	12/19/77
	A3	4,241,165	12/23/1980	Hughes, et al.	430	269	09/05/78
	A4	4,244,752	01/13/1981	Henderson, et al.	148	1.5	03/06/79
	A5	4,283,249	08/11/1981	Ephrath, L.M.	156	643	08/17/1979
	A6	4,324,611	04/13/1982	Vogel, et al.	156	643	06/26/80
	A7	4,350,578	09/21/82	Frieser, et al.	204	192 R	05/11/81
	A8	4,352,724	10/5/1982	Sugishima, et al.	204	192	11/19/1980
	A9	4,368,092	01/11/83	Steinberg, et al.	156	345	08/05/81
	A10	4,371,407	02/01/1983	Kurosawa, K.	148	187	10/28/1981
	A11	4,374,698	02/22/1983	Sanders, et al.	156	643	07/09/81
	A12	4,377,438	03/22/1983	Moriya, et al.	156	643	09/22/81
	A13	4,401,054	08/30/1983	Matsuo, et al.	118	723	04/27/81
	A14	4,439,270	03/27/1984	Powell, et al.	156	644	08/08/83
	A15	4,461,672	07/24/1984	Musser, M.E.	156	644	11/18/1982
	A16	4,492,620	01/08/1985	Matsuo, et al.	204	192 R	09/09/83
	A17	4,511,430	04/16/85	Chen, et al.	156	643	01/30/84
	A18	4,522,681	06/11/1985	Gorowitz, et al.	156	643	04/23/1984
	A19	4,568,410	02/04/1986	Thornquist	156	643	12/20/84
	A20	4,581,101	04/08/1986	Senoue, et al.	156	643	10/04/84

EXAMINER:

DATE CONSIDERED:

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)



Form PTO-1449 (modified)

Atty. Docket No.
102-0072US-4Serial No.
09/923,058

List of Patents and Publications for Applicant's

INFORMATION DISCLOSURE STATEMENT

Inventor/Applicant:

Becker, et al. / Micron Technology, Inc.

Title: METHODS FOR ENHANCING SILICON
DIOXIDE TO SILICON NITRIDE
SELECTIVITY (*as previously amended*)Filing Date:
08/06/01Group:
1763

(Use several sheets if necessary)

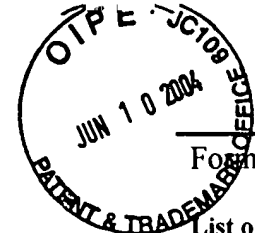
U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A21	4,675,073	06/23/87	Douglas, M.	156	643	03/07/86
	A22	4,711,698	12/08/1987	Douglas, M.	156	643	07/15/85
	A23	4,734,152	03/29/1988	Geis, et al.	156	646	07/13/87
	A24	4,734,157	03/29/1988	Carbaugh, et al.	156	643	03/18/87
	A25	4,778,561	10/18/88	Ghanbari, E.	156	643	10/30/87
	A26	4,789,560	12/06/1988	Yen	427	96	01/08/86
	A27	4,807,016	02/21/89	Douglas, M.	357	67	11/20/87
	A28	4,870,245	09/26/1989	Price, et al.	219	121.36	04/01/85
	A29	4,877,641	10/31/1989	Dory	427	38	05/31/88
	A30	4,892,753	01/09/1990	Wang, et al.	427	38	10/26/88
	A31	4,912,061	03/27/1990	Nasr	437	44	04/04/88
	A32	4,918,031	04/17/1990	Flamm, et al.	437	225	12/28/88
	A33	4,948,458	08/14/1990	Ogle, J.S.	156	643	08/14/89
	A34	4,952,274	08/28/1990	Abraham, T.	156	643	05/27/1988
	A35	4,966,870	10/30/1990	Barber, et al.	437	228	08/08/1989
	A36	4,971,655	11/20/1990	Stefano, et al.	156	659.1	12/26/89
	A37	4,978,420	12/18/1990	Bach	156	643	01/03/90
	A38	5,013,398	05/07/1991	Long, et al.	156	643	05/29/90
	A39	5,013,692	05/07/1991	Ide, et al.	437	241	12/05/89
	A40	5,021,121	06/04/1991	Groechel, et al.	156	643	02/16/90
	A41	5,040,046	08/13/1991	Chhabra, et al.	357	54	10/09/90
	A42	5,043,790	08/27/1991	Butler	357	68	04/05/90

EXAMINER:

DATE CONSIDERED:

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.



Form PTO-1449 (modified)

List of Patents and Publications for Applicant's

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Atty. Docket No.
102-0072US-4Serial No.
09/923,058Inventor/Applicant:
Becker, et al. / Micron Technology, Inc.Title: METHODS FOR ENHANCING SILICON
DIOXIDE TO SILICON NITRIDE
SELECTIVITY (*as previously amended*)Filing Date:
08/06/01Group:
1763

U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A43	5,091,326	02/25/1992	Haskell, J.D.	437	43	09/12/90
	A44	5,093,277	03/03/1992	Arima, et al.	437	69	03/02/90
	A45	5,176,790	01/05/1993	Arleo, et al.	156	643	09/25/1991
	A46	5,200,358	04/06/1993	Bollinger, et al.	437	180	11/15/1991
	A47	5,242,538	09/07/1993	Hamrah, et al.	156	643	01/29/92
	A48	5,244,837	09/14/1993	Dennison, C.H.	437	195	03/19/1993
	A49	5,269,879	12/14/93	Rhoades, et al.	156	643	10/16/91
	A50	5,286,344	02/15/1994	Blalock, et al.	156	657	06/15/92
	A51	5,286,667	02/15/1994	Lin, et al.	437	52	08/11/92
	A52	5,290,726	03/01/1994	Kim, H.S.	437	52	02/18/1992
	A53	5,296,095	03/22/94	Nabeshima, et al.	156	662	10/30/91
	A54	5,298,463	03/29/1994	Sandhu, et al.	437	192	04/16/1992
	A55	5,302,236	04/12/1994	Tahara, et al.	156	643	10/18/1991
	A56	5,316,616	05/31/1994	Nakamura, et al.	156	643	05/27/93
	A57	5,321,211	06/14/1994	Haslam, et al.	174	262	04/30/1992
	A58	5,338,398	08/16/1994	Szwejkowski, et al.	156	655	12/23/92
	A59	5,338,700	08/16/1994	Dennison, et al.	437	60	04/14/1993
	A60	5,364,804	11/15/1994	Ho, et al.	437	41	11/03/93
	A61	5,366,590	11/22/1994	Kadomura, S.	156	662	03/17/1994

EXAMINER:

DATE CONSIDERED:

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.



Form PTO-1449 (modified)

Atty. Docket No.
102-0072US-4Serial No.
09/923,058

List of Patents and Publications for Applicant's

INFORMATION DISCLOSURE STATEMENT

Inventor/Applicant:
Becker, et al. / Micron Technology, Inc.Title: METHODS FOR ENHANCING SILICON
DIOXIDE TO SILICON NITRIDE
SELECTIVITY (*as previously amended*)Filing Date:
08/06/01Group:
1763

(Use several sheets if necessary)

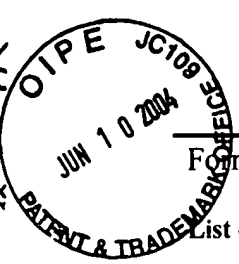
U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A62	5,372,969	12/13/1994	Moslehi, M. M.	437	195	03/03/1992
	A63	5,376,233	12/27/1994	Man	156	662	12/30/92
	A64	5,423,945	06/13/1995	Marks, et al.	156	662.1	09/08/92
	A65	5,429,710	07/04/1995	Akiba, et al.	216	17	02/16/94
	A66	5,451,290	09/19/1995	Salfelder	216	67	02/11/93
	A67	5,468,342	11/21/1995	Nulty, et al.	156	643.1	04/28/94
	A68	5,470,768	11/28/1995	Yanai, et al.	437	40	08/05/93
	A69	5,477,975	12/26/95	Rice, et al.	216	68	10/15/93
	A70	5,503,901	04/02/96	Sakai, et al.	428	161	06/29/94
	A71	5,556,501	09/17/96	Collins, et al.	156	345	04/04/93
	A72	5,562,801	10/08/96	Nulty, J.E.	156	643.1	12/07/94
	A73	5,772,832	06/30/1998	Collins, et al.	156	345	04/04/97
	A74	5,880,036	03/09/1999	Becker, et al.	438	740	11/15/93
	A75	5,880,037	03/09/99	Arleo, P.	438	740	10/09/97
	A76	5,888,414	03/30/1999	Collins, et al.	216	68	09/24/97
	A77	6,184,150	02/06/2001	Yang, et al.	438	740	10/27/97
	A78	6,194,325	02/27/2001	Yang, et al.	438	740	12/04/95
	A79	5,439,846	08/08/1995	Nguyen, et al.	437	187	12/17/93
	A80	5,731,242	03/24/1998	Parat, et al.	438	586	11/14/95
	A81	5,554,557	09/10/1996	Koh, Chao-Ming	437	52	02/02/96

EXAMINER:

DATE CONSIDERED:

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.



Form PTO-1449 (modified)

Atty. Docket No.
102-0072US-4Serial No.
09/923,058

List of Patents and Publications for Applicant's

INFORMATION DISCLOSURE STATEMENT

Inventor/Applicant:
Becker, et al. / Micron Technology, Inc.Title: METHODS FOR ENHANCING SILICON
DIOXIDE TO SILICON NITRIDE
SELECTIVITY (*as previously amended*)Filing Date:
08/06/01Group:
1763

(Use several sheets if necessary)

Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
	B1	0 050 972 A2	05/05/1982	EPO	H01L	21/88	Yes
	B2	0 265 584 A2	04/05/88	EPO	H01L	21/31	Yes
	B3	0 520 519 A1	12/30/1992	EPO	H01J	37/32	Yes
	B4	0 552 490 A1	07/28/1993	EPO	H01L	21/311	Yes
	B5	0 644 584 A1	03/22/1995	EPO	H01L	21/311	Yes
	B6	0 651 434 A2	05/03/1995	EPO	H01L	21/311	Yes
	B7	01-015930	01/19/1989	Japan	H01L	21/302	Abstract Only
	B8	2 175 542 A	12/03/1986	United Kingdom	C23F	1/02	Yes
	B9	2-62038	03/01/90	Japan	H01L	21/302	Abstract Only
	B10	JP60143633	07/29/1985	Japan	H01L	21/302	Abstract only
	B11	4-298032	10/21/1992	Japan	H01L	21/302	Abstract Only
	B12	55009464	01/23/80	Japan	H01L	27/08	Abstract Only
	B13	57210631	12/24/82	Japan	H01L	21/302	Abstract Only
	B14	58-53833	03/30/1983	Japan	H01L	21/302	Abstract Only
	B15	60111474	06/17/1985	Japan	H01L	29/80	Abstract Only
	B16	61-224423	10/06/1986	Japan	H01L	21/302	Abstract Only
	B17	0 777 267	10/31/1996	EP	H01L	21/311	yes
	B18	JP02198634	08/07/1990	Japan	B01J	23/24	Abstract only
	B19	JP03262503	11/22/1991	Japan	B01D	19/00	Abstract only
	B20	JP04180222	06/26/1992	Japan	H01L	21/302	Abstract only
	B21	JP04298032	10/21/1992	Japan	H01L	21/302	Abstract only
	B22	JP58053833	03/30/1983	Japan	H01L	21/302	Abstract only

EXAMINER:

DATE CONSIDERED:

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.



Form PTO-1449 (modified)

Atty. Docket No.
102-0072US-4Serial No.
09/923,058List of Patents and Publications for Applicant's
INFORMATION DISCLOSURE STATEMENTInventor/Applicant:
Becker, et al. / Micron Technology, Inc.Title: METHODS FOR ENHANCING SILICON
DIOXIDE TO SILICON NITRIDE
SELECTIVITY (*as previously amended*)Filing Date:
08/06/01Group:
1763

(Use several sheets if necessary)

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C1	D. Kenney et al., "A Buried-Plate Trench Cell for a 64-Mb DRAM," 1992 Symposium of VLSI, IEEE, pp. 14-15 (1992).
	C2	K.H. Kusters et al., "A High Density 4Mbit DRAM Process Using a Fully Overlapping Bitline Contact (FoBIC) Trench Cell," Corporate Research and Technology, 1987 Symposium on VLSI Technology Digest of Technical Papers, pp. 93-94 (1987).
	C3	J.A. Bondur & C.F. Crimi, "Gas Mixing to Prevent Polymer Formation During Reactive Ion Etching," IBM Technical Disclosure Bulletin, Vol. 21, No. 10, pg. 4016 (Mar. 1979).
	C4	Bondur, J.A. & Schwartz, S.M., "Selective Reactive Ion Etching of Silicon Compounds," IBM Tech. Disclosure Bulletin, Vol. 21, No. 10, pg. 4015 (Mar. 1979).
	C5	M. Nawata et al., "High-Rate and Highly Selective Etching of SiO ₂ Using Microwave Plasma," 183rd Meeting Electrochemical Society, Honolulu, Hawaii, pp. 228-234 (1993).
	C6	A.M. Barklund & H.O. Blum, "Influence of Different Etching Mechanisms on the Angular Dependence of Si ₃ N ₄ Etching," J. Vac. Sci. Technol. A, Vol. 11, No. 4, pp. 1226-1229 (Jul. 1993).
	C7	J.C. Arnold et al., "Influence of Reactant Transport on Fluorine RIE of Deep Trenches in Si," J. Vac. Sci. Technol. B, Vol. 11, No. 6, pp. 2071-2080 (Nov. 1993).
	C8	P.E. Clarke et al., "Mass Spectrometric Studies of Plasma Etching of Si ₃ N ₄ ," J. Vac. Sci. Technol. B, Vol. 3, No. 6, pp. 1614-1619 (Nov. 1985).
	C9	T.J. Dalton et al., "Microtrench Formation in Polysilicon Plasma Etching Over Thin Gate Oxide," J. Electrochem. Soc., Vol. 140, No. 8, pp. 2395-2401 (Aug. 1993).
	C10	A. Mikasa et al., "Novel Surface Reaction Model in Dry-Etching Process Simulator," Jpn. J. Appl. Phys., Vol. 31, Pt. 1, No. 12B, pp. 4363-4369 (Dec. 1992).
	C11	Y.X. Li et al., "Plasma Etching of Polysilicon/Nitride/Polysilicon Sandwich Structure for Sensor Applications," Microelectron. Engrg., 21, pp. 341-344 (1993).
	C12	Y. Hikosaka & H. Sugai, "Radical Kinetics in a Fluorocarbon Etching Plasma," Jpn. Appl. Phys., Vol. 32, No. 6, pp. 3040-3044 (Jun. 1993).
	C13	J.L. Lindstrom et al., "Reactive Ion Etching of Silicon Nitride Deposited by Different Methods in CF ₄ /H ₂ Plasmas," J. Electrochem. Soc., Vol. 139, No. 1, pp. 317-320 (Jan. 1992).
	C14	K.H. Kuesters et al., "Self-Aligned Bitline Contact for 4 Mbit DRAM," pp. 640-649, 1987 (journal/book unknown).
	C15	G.S. Oehrlein & H.L. Williams, "Silicon Etching Mechanisms in a CF ₄ /H ₂ Glow Discharge," J. Appl. Phys., Vol. 62, No. 2, pp. 662-672 (Jul. 1987).
	C16	S.C. McNevin, "The Correlation Between Selective Oxide Etching and Thermodynamic Prediction," AT&T Bell Laboratories, 1994 American Vacuum Society Symposium, p. 120.

EXAMINER:

DATE CONSIDERED:

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.



Form PTO-1449 (modified)

Atty. Docket No.
102-0072US-4Serial No.
09/923,058

List of Patents and Publications for Applicant's

INFORMATION DISCLOSURE STATEMENT

Inventor/Applicant:

Becker, et al. / Micron Technology, Inc.

Title: METHODS FOR ENHANCING SILICON
DIOXIDE TO SILICON NITRIDE
SELECTIVITY (*as previously amended*)Filing Date:
08/06/01Group:
1763

(Use several sheets if necessary)

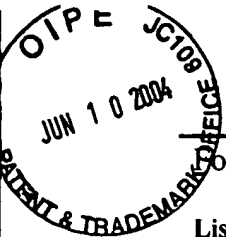
Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C17	T. Kure et al., "VLSI Device Fabrication Using Unique, Highly-selective Si ₃ N ₄ Dry Etching," Proceeding of the International Electron Devices Meeting (IEDM), pp. 757-759 (1983).
	C18	D.S. Becker & G. Blalock, "A method of obtaining a high oxide to nitride selectivity in an MERIE Reactor," 1993 Symposium of Dielectric Science and Technology and Electronics Divisions of The Electrochemical Society, Vol. 93-21, pp. 178-189 (May 19, 1993).
	C19	Anonymous, "Selective Reactive Ion Etch for Silicon Oxide Over Silicon Nitride," Research Disclosure, No. 30159, pg. 340 (May 1989).
	C20	H.T. Arends et al., "Mass Spectrometry and Reactive Ion Etching of Silicon Nitride (Si ₃ N ₄), Silicon Dioxide, and Silicon in Freon on Various Electrode Materials," in <i>Symposium Proceedings—International Symposium of Plasma Chemistry</i> , Vol. 3, 7 th Ed.(Eindrove pubs.), pp. 1007-1012 (1985).
	C21	M. Armacost et al., "Selective Oxide: Nitride Dry Etching in a High Density Plasma Reactor," Symposium of Dielectric Science and Technology and Electronics Divisions of the Electrochemical Society, Vol. 93-21, pp. 190-200 (May 19, 1993).
	C22	A.J. Bariya et al., "The Etching of CHF ₃ Plasma Polymer in Fluorine-Containing Discharges," Journal of Vacuum Science and Technology B, Vol. 9, No. 1, pp. 1-7 (1991).
	C23	E.Y. Chang et al., "A Selective Dry-Etch Technique for GaAs MESFET Gate Recessing," IEEE Trans. Electron. Devices, Vol. 35, No. 10, pp. 1580-84 (1988).
	C24	J. W. Coburn, "Increasing the Etch Ratio of SiO ₂ /Si in Fluorocarbon Plasma Etching", IBM Technical Disclosure Bulletin, Vol. 19, No. 10, pg. 3854 (1977).
	C25	J.W. Coburn & E. Kay, "Some Chemical Aspects of the Fluorocarbon Plasma Etching of Silicon and Its Compounds," IBM J. Res. Develop., Vol. 23, No. 1, pp. 33-41 (1979).
	C26	Complaint for Declaratory Relief, filed in <i>Sandisk Corp. v. Micron Tech., Inc.</i> , Case No. C-02-2627VRW (N. D. Cal. May 31, 2002).
	C27	R. D'Agostino, "Summary Abstract: Mechanisms of Polymerization in Discharges of Fluorocarbons," J. Vacuum Sci. & Tech., Vol. 3, No. 6, pp. 2627-28 (1985).
	C28	D.L. Flamm & V.M. Donnelly, "The Design of Plasma Etchants," Plasma Chemistry and Plasma Processing, Vol. 1, No. 4, pp. 317-63 (1981).
	C29	H. Gilboa et al., "Nondestructive Characterization of RIE Induced Radiation Damage Using Surface Accoustic Waves," Mat. Res. Soc. Symp. Proc., Vol. 38, pp. 511-17 (1985).

EXAMINER:

DATE CONSIDERED:

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.



Form PTO-1449 (modified)	Atty. Docket No. 102-0072US-4	Serial No. 09/923,058
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	Inventor/Applicant: Becker, et al. / Micron Technology, Inc.	
	Title: METHODS FOR ENHANCING SILICON DIOXIDE TO SILICON NITRIDE SELECTIVITY (<i>as previously amended</i>)	
	Filing Date: 08/06/01	Group: 1763

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C30	G.S. Oehrlein & Y.H. Lee, "Reactive Ion Etching Related Si Surface Residues and Subsurface Damage: Their Relationship to Fundamental Etching Mechanisms," J. Vacuum Sci. & Tech. A, Vol. 5, No. 4, pp. 1585-94 (1987).
	C31	W.J. Grande et al., "Characterization of Etch Rate and Anisotropy in the Temperature-Controlled Chemically Assisted Ion Beam Etching of GaAs," J. Vac. Sci. & Technol. B, Vol. 8, No. 5, pp. 1075-79 (1990).
	C32	Y. Horiike et al., "High Rate and Highly Selective SiO ₂ Etching Employing Inductively Coupled Plasma and Discussion on Reaction Kinetics," Journal Unknown, pp. 801-809 (received Oct. 27, 1994; Accepted Mar. 17, 1995).
	C33	Kaga, T. et al., "Crown-Shaped Capacitor Cell for 1.5 V Operation 65 Mb DRAMs," IEEE Transactions on Electronic Devices, Vol. 38, No. 2, pp. 255-61 (1991).
	C34	K.H. Kusters et al., "A Self Aligned Contact Process with Improved Surface Planarization," Journal de Physique, Vol. 49, Colloque C4, Suppl. 9, C4503-06 (1988).
	C35	L.M. Loewenstein, "Selective Etching of Silicon Nitride Using Remote Plasmas of CF ₄ and SF ₆ ," J. Vac. Sci. & Tech, Vol. 7, No. 3, pp. 686-90 (1989).
	C36	L.M. Loewenstein, "Temperature Dependence of Silicon Nitride Etching by Atomic Fluorine," American Institute of Physics, Vol. 65, No. 1, pp. 386-87 (1989).
	C37	K. Machida & H. Oikawa, "SiO ₂ Planarization Technology with Biasing and Electron Cyclotron Resonance Plasma Deposition for Submicron Interconnections," J. Vacuum Sci. & Tech. B, Vol. 4, pp. 818-21 (1986).
	C38	J. Marks et al., "Introduction of a New High Density Plasma Reactor Concept for High Aspect Ratio Oxide Etching," SPIE, Vol. 1803, pp. 235-47 (1992).
	C39	S.J. Moss et al., eds. "Plasma Etching", in <i>The Chemistry of the Semiconductor Industry</i> , New York, Blackie & Son Ltd., Ch. 15, pp. 343-90 (1987).
	C40	K. Nojiri et al., "Microwave Plasma Etching of Silicon Dioxide for Half-Micron ULSIs," in <i>Extended Abstracts of the 21st Conference on Solid State Devices and Materials</i> , pp. 153-56 (Tokyo 1989).
	C41	H. Norström et al., "RIE of SiO ₂ in Doped and Undoped Fluorocarbon Plasmas," Vacuum, Vol. 32, No. 12, pp. 737-45 (1982).

EXAMINER:**DATE CONSIDERED:**

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.



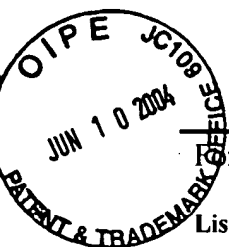
Form PTO-1449 (modified)	Atty. Docket No. 102-0072US-4	Serial No. 09/923,058
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	Inventor/Applicant: Becker, et al. / Micron Technology, Inc.	
	Title: METHODS FOR ENHANCING SILICON DIOXIDE TO SILICON NITRIDE SELECTIVITY (<i>as previously amended</i>)	
	Filing Date: 08/06/01	Group: 1763

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C42	T. Ohiwa et al., "SiO ₂ Tapered Etching Employing Magnetron Discharge of Fluorocarbon Gas," Jpn. J. App. Physics., Vol. 31, Pt. 1, No. 2A, pp. 405-10 (1992).
	C43	Preliminary Invalidity Contentions regarding Parent Patent 5,286,344, filed in <i>Sandisk Corp. v. Micron Tech., Inc.</i> , Civ. No. CV02-2627CW (N. D. Cal. Dec. 6, 2002).
	C44	Preliminary Invalidity Contentions regarding Parent Patent 6,015,760, filed in <i>Sandisk Corp. v. Micron Tech., Inc.</i> , Civ. No. CV02-2627CW (N. D. Cal. Nov. 21, 2002).
	C45	Preliminary Invalidity Contentions regarding Parent Patent 6,287,978, filed in <i>Sandisk Corp. v. Micron Tech., Inc.</i> , Civ. No. CV02-2627CW (N. D. Cal. Dec. 6, 2002).
	C46	P.E. Riley & D.A. Hanson, "Comparison of Etch Rates of Silicon Nitride, Silicon Dioxide, and Polycrystalline Silicon Upon O ₂ Dilution of CF ₄ Plasmas," J. Vacuum Sci. & Tech. B, Vol. 7, No. 6, pp. 1352-56 (1989).
	C47	P.E. Riley et al., "Formation of Contacts in a Planarized SiO ₂ /Si ₃ N ₄ /SiO ₂ Dielectric Structure," J. Electrochemical Soc., Vol. 139, No. 9, pp. 2613-16 (Sept. 1992).
	C48	T. Sakai et al., "Examination of Selective Etching and Etching Damage with Mass-Selected Ion Beam," 1993 Dry Process Symposium, pp. 193-198 (1993).
	C49	S. Samukawa, "Time-Modulated Electron Cyclotron Resonance Plasma Discharge for Controlling Polymerization in SiO ₂ Etching," Jpn. J. Applied Phys., Vol. 32, Pt. 1, No. 12B, pp. 6080-87 (Dec. 1993).
	C50	M. Sato et al., "Suppression of Microloading Effect by Low-Temperature SiO ₂ Etching," Jpn. J. Applied Phys., Vol. 31, No. 12B, pp. 4370-75 (Dec. 1992).
	C51	J. P. Simko & G.S. Oehrlein, "Reactive Ion Etching of Silicon and Silicon Dioxide in CF ₄ Plasmas Containing H ₂ or C ₂ F ₄ Additives," J. Electrochem. Soc., Vol. 138, No. 9, pp. 2748-52 (1991).
	C52	H. Toyoda et al., "Etching Characteristics of SiO ₂ in CHF ₃ Gas Plasma," J. Electronic Mat., Vol. 9, No. 3, pp. 569-84 (1980).
	C53	E.A. Truesdale et al., "The Effect of Added Acetylene on the RF Discharge Chemistry of C ₂ F ₆ , A Mechanistic Model for Fluorocarbon Plasmas," J. Applied Physics, Vol. 51, No. 5, pp. 2909-13 (1980).

EXAMINER:**DATE CONSIDERED:**

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.



Form PTO-1449 (modified)	Atty. Docket No. 102-0072US-4	Serial No. 09/923,058
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	Inventor/Applicant: Becker, et al. / Micron Technology, Inc.	
	Title: METHODS FOR ENHANCING SILICON DIOXIDE TO SILICON NITRIDE SELECTIVITY (<i>as previously amended</i>)	
	Filing Date: 08/06/01	Group: 1763

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C54	J.L. Vossen & J.J. Cuomo, "Glow Discharge Sputter Deposition," in <i>Thin Film Processes</i> , J.L. Vossen & W. Kern, eds., Academic Press, New York, Ch. II-1, pp. 11-73 (1978).
	C55	S. Watanabe, "Plasma Cleaning by Use of Hollow-Cathode Discharge in a CHF ₃ -SiO ₂ Dry-Etching System," <i>Jpn. J. Appl. Physics</i> , Vol. 31, pp. 1491-98 (1992).
	C56	Y. Nagahiro, "Self Aligned Contact Development Activity Increases Aimed for Large Scale Manufacturing Around 0.25 Mm Era Problem of Etching Technology: Improvement of Si ₃ N ₄ Selectivity Ratio," <i>Nikkei Microdevices, LSI Update</i> , pp. 54-61 (Feb. 1995).
	C57	G.Z. Yin et al., "High-Selectivity Plasma Etching of Silicon Dioxide on Single-Wafer Etchers," <i>J. Vacuum Sc. & Tech. A</i> , Vol. 7, No. 3, pp. 691-95 (1989).
	C58	Anonymous, "New Insight into Oxide Etch Mechanisms—Substrate Heating Beneficial," <i>Semiconductor International</i> , pg. 88 (June 1997).
	C59	K. Harashima et al., "Selective Oxide Etching to Silicon Nitride," 1994 Dry Process Symposium, pp. 247-51 (Tokyo Nov. 10-11, 1994).
	C60	T. Ono et al., "Mechanism for CF Polymer Film Deposition through Deep SiO ₂ Holes in Electron Cyclotron Resonance Plasma," <i>Jpn. J. Appl. Phys.</i> , Vol. 35, pp. 2468-71 (Apr. 1996).
	C61	W. Tsai, "High Selectivity Plasma Etching of Silicon Dioxide with a Dual Frequency 27/2 MHz Capacitive Radio Frequency Discharge," <i>J. Vac. Sci. Technol. B</i> , Vol. 14, No. 5, pp. 3276-82 (Sep./Oct. 1996).
	C62	S. Sekiyama et al., "The Investigation for Introduction of SAC Etching Technique to Mass Productive DRAM Process," <i>Oki Electric Industry Co. & Mizyazaki Oki Electric Co.</i> , IEEE 0-7803-3752-2, pp. F-17 to F-20 (1997).
	C63	H. Hayashi et al., "Characterization of Highly Selective SiO ₂ /Si ₃ N ₄ Etching of High-Aspect Ratio Holes," <i>Jpn. J. Appl. Phys.</i> , Vol. 35, pp. 2488-93 (1996).
	C64	H. Kazumi et al., "Analysis of Plasma Chemical Reactions in Dry Etching of Silicon Dioxide," <i>Jpn. J. Appl. Phys.</i> , Vol. 34, Pt. 1, No. 4B, pp. 2125-31 (Apr. 1995).
	C65	M. A. Jaso et al., "Simultaneous BPSG Planarization and Contact Stud Formation in a .25 um DRAM Process," 1996 VMIC Conference, pp. 407-12 (Jun. 18-20, 1996).
	C66	Y. Ishigaki et al., "Low Parasitic Resistance Technologies with NES-SAC and SWT-CDV Process for Low Supply Voltage, High Speed BiCMOS SRAMS," 1994 Symposium on VLSI Technology Digest of Technical Papers, p. 99-100 (1994).

EXAMINER:**DATE CONSIDERED:**

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.



Form PTO-1449 (modified) List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	Atty. Docket No. 102-0072US-4	Serial No. 09/923,058
	Inventor/Applicant: Becker, et al. / Micron Technology, Inc.	
	Title: METHODS FOR ENHANCING SILICON DIOXIDE TO SILICON NITRIDE SELECTIVITY (<i>as previously amended</i>)	
	Filing Date: 08/06/01	Group: 1763

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C67	J.H. Kim et al., "The Effects of CH ₃ F Addition to Carbon-rich Chemistry on Nitride Barrier SAC Etching for 1G DRAM and Beyond," 43 rd National AVS Symposium, pg. 133 (Oct. 14-18, 1996) (Abstract).
	C68	J. Gambino et al., "A Si ₃ N ₄ Etch Stop Process for Borderless Contacts in 0.25 um Devices," 1995 VMIC Conference, pp. 558-64 (Jun. 27-29, 1995).
	C69	M. Gallagher et al., "A Novel, Borderless Metal-to-Diffusion Contact Technique," 1995 IEEE/SEMI Advanced Semiconductor Manufacturing Conference, pp. 13-15 (Nov. 13-15, 1995).
	C70	A. Perera et al., "Scaling Self-aligned Contacts for .25 um and Below," Proceedings of SPIE: Microelectronic Device Technology, Vol. 3212, pp. 171-75 (Oct. 1-2, 1997).
	C71	Y. Chinzei et al., "SiO ₂ Etching Employing Inductively Coupled Plasma with Hot Inner Wall," Jpn. J. Appl. Phys., Vol. 35, Pt. 1, No. 4B, pp. 2472-2476 (Apr. 1996).
	C72	J-H Kim et al., "Thin Nitride Barrier Self-Aligned Contact (TNBSAC) Oxide Etching in a High Density Inductively Coupled Plasma Using C ₄ F ₈ /CH ₃ F/Ar Chemistry," Electrochemical Society Proceedings, Vol. 98-4, pp. 137-45 (1998).
	C73	T. Akimoto et al., "Oxide Etching Using Surface Wave Coupled Plasma," Jpn. J. Appl. Phys., Vol. 33, pp. 7037-41 (Dec. 1994).
	C74	T. Tsukada et al., "Electrode Temperature Effect in Narrow-Gap Reactive Ion Etching," Jpn. J. Appl. Phys., Vol. 32, Pt. 1, No. 10, pp. 4850-53 (1993).
	C75	M. Yamanaka et al., "Highly Selective SiO ₂ Etching with an Inductively Coupled Plasma Source Using a Multispiral Coil," Jpn. J. Applied Physics, Vol. 37, pp. 2343-48 (Apr. 1998).
	C76	<i>Motorola, Inc. v. Micron Technology, Inc.</i> , Reply and Amended Counterclaim in Reply to Counterclaim and Demand for Jury Trial, Case no. A04 CA 007 LY (W.D. Tex. Apr. 27, 2004).

EXAMINER:**DATE CONSIDERED:**

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.